

REMARKS

Re-examination and allowance of the present application is respectfully requested.

Initially, Applicants thank the Examiner for discussing this application with their U.S. representatives on November 20, 2009. During the interview, claim 1 was discussed with respect to the rejection set forth in the final Office Action. Applicants' representatives discussed that the latch failure detector recited in claim 1 (e.g., the sole independent claim) includes a lather (such as, for example, a latch circuit) that latches the test signal generated by the test signal generator in order to detect a presence/absence of a latch failure in a data driver based on an output signal from the lather in a period other than a write period. The Examiner indicated that revising claim 1 to include this clarification distinguishes the claimed invention from the applied prior art. However, the Examiner noted that such an amendment would require that he update his search before indicating allowance of the application.

Applicants' representatives and the Examiner also discussed the claim amendments that were made in the amendment filed on May 4, 2009. The Examiner indicated that the general concept defined by the revisions made to claim 1 in that response (e.g., that the phase adjustment of the clock signal is only made if a phase of the serial data and the phase of the clock signal differ by at least a predetermined amount) is in principle distinguished from the applied prior art. However, the Examiner indicated that any difference could be a predetermined difference. Thus, the Examiner suggested that as an alternative to revising the claims to recite the lather feature (discussed above), that the claim be revised to more clearly recite when the latch failure is detected, thus making the claims allowable over the applied art of record.

By the current amendment, as will be discussed herein, Applicants amend claim 1 in accordance with the discussion with the Examiner. Specifically, claim 1 is clarified to recite the lather feature. Applicants also submit new claims 25 and 26 for the Examiner's consideration,

which also include the features discussed with the Examiner, which were indicated to be distinguishable from the applied art of record. In this regard, new independent claim 25 clarifies when the phase adjustment is performed, while new independent claim 26 includes the phase adjustment and the latcher features. In view of the submission of claims 25 and 26, Applicants cancel, without prejudice, claims 12 and 15, so that the total number of pending claims remain unchanged.

Claims 1, 2, 5-7, 13-18 and 20-24 stand rejected under 36 U.S.C. §103(a) as being obvious over U.S. Patent 6,288,699 to KUBOTA et al. in view of U.S. Patent 6,559,603 to IWAMI. Claim 3 stands rejected under 35 U.S.C. §103(a) as being obvious over KUBOTA et al. in view of IWAMI and U.S. Patent 4,697,107 to HAINES. Claims 4, 8 and 10-12 stand rejected under 35 U.S.C. §103(a) as being obvious over KUBOTA et al. in view of IWAMI and U.S. Patent Application Publication No. 2001-0054924 to SAITO. Claim 9 stands rejected under 35 U.S.C. §103(a) as being obvious over KUBOTA et al. in view of IWAMI, SAITO and U.S. Patent 5,793,363 to TAKUWA. Claim 19 stands rejected under 35 U.S.C. §103(a) as being obvious over KUBOTA et al. in view of IWAMI and U.S. Patent 6,924,796 to SOMEYA et al. Applicants respectfully traverse each ground of rejection.

In rejecting claims 1, 2, 5-7, 13-18 and 20-24, the Office Action asserts that the clock signal CKS, the video signal DAT and the detection signals MON1 and MON2 of KUBOTA et al. correspond to the clock signal, serial data and test signal recited in Applicants' claims. Applicants submit that this assertion is incorrect.

KUBOTA et al. discloses that the detection signals MON1 and MON2 are outputted from two points of a data signal line driving circuit 3, with the phase difference between the detection signals MON1 and MON2 being detected by delay detection section 13. Thus, in KUBOTA et al., based on the phase difference, the internal delay of the data signal line driving circuit 13 is

calculated. Based on the calculated internal delay, the phase difference between the clock signal CKS and the video signal DAT is adjusted by a phase adjusting section 14. See, for example, column 9, lines 39-53. Applicants respectfully submit that in KUBOTA et al., the detection signals MON1 and MON2 are output signals of a latch circuit LATy and delay signals thereof, but are not applied to the latch circuit LATy. See, for example, Fig. 4 of KUBOTA et al. Further, the delay detecting section 13 in KUBOTA et al. does not detect a latch failure in the latch circuit LATy.

On the other hand, the presently claimed invention specifies that when a test signal is generated by a test signal generator during a period other than a write period, and a latch failure of the test signal actually generated in the latch circuit is detected, the phase of the clock signal is adjusted.

That is, Applicants submit that while the detection signals MON1 and MON2 of KUBOTA et al. are signals outputted from the latch circuit, the test signal of the present invention is taught as being inputted to the latch circuit. Therefore, Applicants submit that the detection signals MON1 and MON2 of KUBOTA et al. can not be considered to be equivalent to Applicants' claimed test signal. Nor does KUBOTA et al. detect the presence/absence of a latch failure based on the inputted test signal.

Applicants further submit that the remaining applied art of record fails to disclose the features lacking in KUBOTA et al. Accordingly, Applicants submit that the combination of references suggested by the Office Action fails to render the claimed invention obvious. In particular, the present response clarifies claim 1 to recite that the latch failure detector includes a latcher that latches the test signal generated by the test signal generator to detect a presence/absence of a latch failure based on an output signal from the latcher in a period other than a write period. As noted above, the Examiner indicated, during the above-summarized

interview, that this feature is not disclosed by the applied art of record. Accordingly, the Examiner is respectfully requested to withdraw the various 35 U.S.C. 103(a) rejections, and to indicate the allowability of the pending claims.

Applicants also submit new independent claims 25 and 26 for the Examiner's consideration, which have been drafted in accordance with the above-noted interview. Independent claim 25 clarifies when the phase adjustment is performed. As noted above, the Examiner indicated during the interview that clarification of this feature would also overcome the rejections set forth in the final Office Action. Support for this feature may be found at, for example, pages 39 and 40 of Applicants' filed specification. New claim 26 includes the novel features discussed above with respect to independent claims 1 and 25. A favorable determination of claims 25 and 26 is thus respectfully requested.

Pursuant to M.P.E.P. §714.13, Applicants contend that entry of the present amendment is appropriate because the proposed amended claims avoid the rejections set forth in the last Office Action, resulting in the application being placed in condition for allowance, or alternatively, the revised claims place the application in better condition for purposes of appeal. Further, the revised claims do not present any new issues that would require any further consideration or search by the Examiner, and while the amendment submits two additional claims for the Examiner, a like number of claims (e.g., claims 12 and 15) have been canceled, so that the total number of pending claims remain unchanged. Accordingly, entry of the present amendment is respectfully requested.

SUMMARY AND CONCLUSION

In view of the fact that none of the art of record, whether considered alone or in combination, discloses or suggests the present invention as now defined by the pending claims, and in further view of the above amendments and remarks, reconsideration of the Examiner's action and allowance of the present application are respectfully requested and are believed to be appropriate.

Any amendments to the claims which have been made in this amendment, and which have not been specifically noted to overcome a rejection based upon the prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

Should an extension of time be necessary to maintain the pendency of this application, including any extensions of time required to place the application in condition for allowance by an Examiner's Amendment, the Commissioner is hereby authorized to charge any additional fee to Deposit Account No. 19-0089.

If there should be any questions concerning this application, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully Submitted,
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December 3, 2009
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